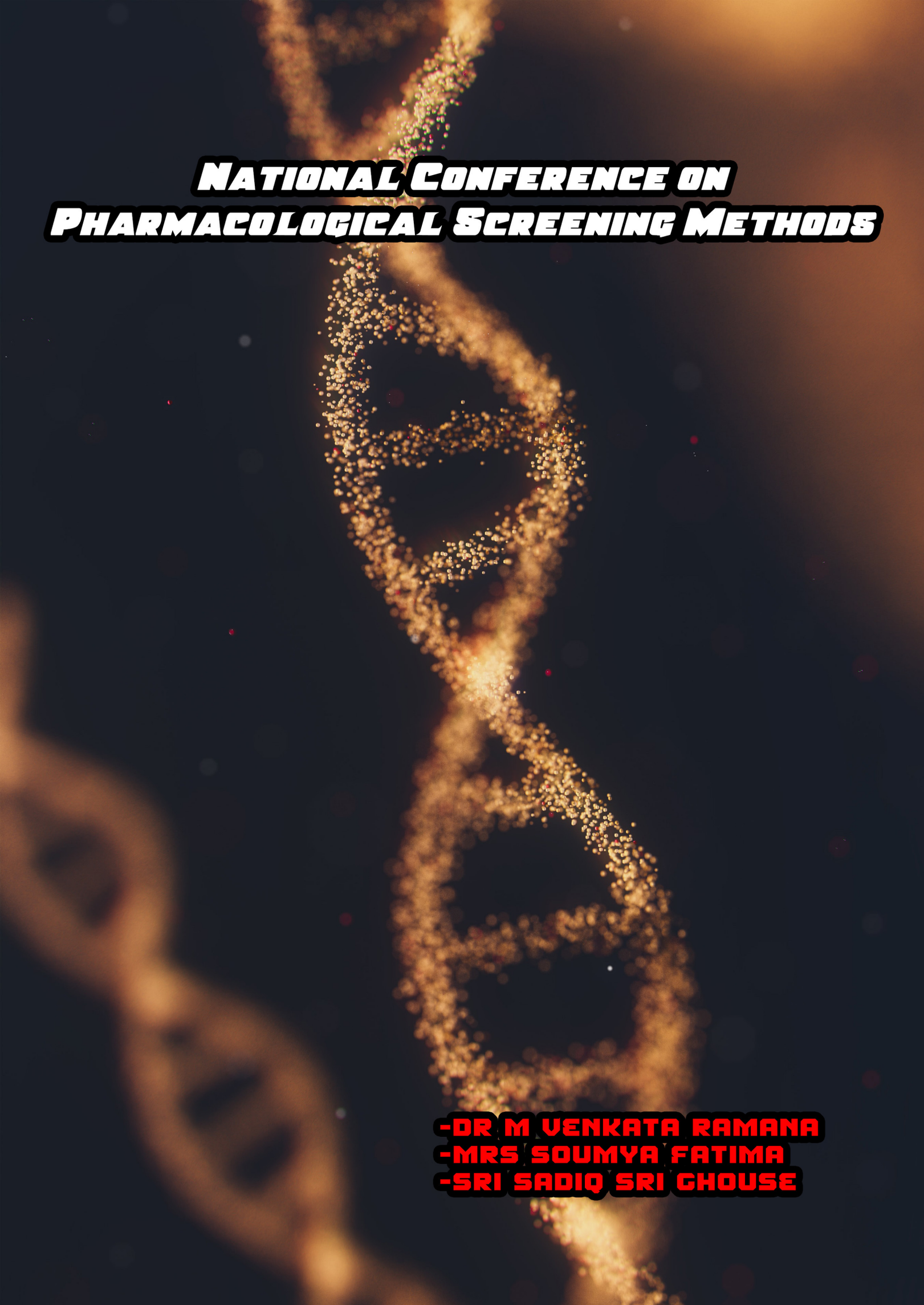
National Conference on
Pharmacological Screening Methods
-DR M VENKATA RAMANA
-MRS SOUMYA FATIMA
-SRI SADIQ SRI GHOUSE

National Conference on Pharmacological Screening Methods

Editors

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FORMULATION AND EVALUATION OF CAPTOPRIL FLOATING MICROSPHERES

SHAIK GOUSIA TAYABA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

To develop and evaluate captopril floating microspheres using polymers like HCMC K100M, HPMC K4M and ethyl cellulose. However the captopril has short half life (2 hrs) and hence requires frequent administration and it has degradation in the intestinal PH. Therefore the possible way by which this can be overcome is by formulating gastro retentive system a controlled release formulation (CRF). Floating microsphere of captopril was prepared by solvent evaporation technique. In the present study nine formulations were formulated by using HPMC K100M, HPMC K4M and ethyl cellulose in various proportions. The prepared Captopril sustained release floating microsphere were then subjected to micro metrics properties FT-IR, SEM particle size and size distribution, percentage yield drug content, entrapment efficiency, drug loading microspheres *invitro* dissolution studies, *invitro* buoyancy release kinetics were performed. The FT-IR spectra revealed that there was no interaction between polymers and captopril. Captopril floating microspheres was spherical in nature, which was confirmed by SEM. The *invitro* performance depends on the polymer concentration. The developed sustained released floating microsphere showed improved *in-vitro* drug release of captopril when compared with other formulation.

STUDY ON PREVALENCE OF ANEMIA AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT RURAL HEALTH TRAINING CENTRE (RHTC) CTM CROSS ROAD, MADANAPALLE

RAO ARCHANA, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

INTRODUCTION

Anemia is not one disease, but condition which results from a number of different pathologies. It can be defined as a reduction from normal of the quantity of haemoglobin it blood. The world health organization defines anemia in adults as hemoglobin levels less than 13g/dl for males and less than 12g/dl for females. However, there are apparently normal individuals with levels less than this. The low hemoglobin level results in a corresponding decrease in the oxygen-carrying capacity of the blood.

AIM:Study on prevalence of anemia among pregnant women attending antenatal clinic at Rural Health training Centre{RHTC}CTM cross road Madanapalle Annamayya district.

METHODOLOGY:A community based cross sectional study was carried out in Antenatal Clinic at Rural Health Traning Centre ctm cross road Madanapalle, Annamayya district. Our study was carried out for period 4 months from march-2022 to June 2022 after getting approved by Institutional Ethics committee [IEC].

RESULTS: AGE:-Out of 269 pregnant women enrolled in these study Maximum pregnant women present between 22-24 years.

ANEMICSTATUS:- Out of 269 pregnant women. In our study Most of the pregnant women were belongs to mild anemic condition.

BODY MASS INDEX (BMI):-ln our study most of the pregnant women were belongs to normal weight.

EDUCATIONAL STATUS:- In our study most of the pregnant Women were belongs to Secondary educational level· So education as we consult as part 1c1 pants.

OCCUPATION:-In our study most of the pregnant women's belongs to homemaker.

GRAVIDA STATUS:-In our study majority of the pregnant women's were belongs to the G2 gravida status.

TYPE OF FAMILY: In this study 25 (464601:) (53.33%) Joint Family. In our study majority of the pregnant women were belongs to joint family.

FOOD HABIT: In our study 6(2.23%>) belongs to vegetarian, 263 (97.760/o) belongs to mixed. In our study most of the pregnant women were belongs to mixed.

DURATION OF PREGNNACY: In this study majority of the Pregnant women were belongs to duration of pregnancy in between 13-24 weeks.

BIRTH INTERVALS:. In this study most of the pregnant women were belongs to birth intervals in between l-3 years.

AGE AT MARRIAGE OR EQUAL TO 18 YEARS: In our study. Most of the pregnant women were belongs to married at age between 19-24years.

TAKING OF IRON SUPPLEMENTS:-In this study most of the pregnant women's were belongs to taking of iron supplements.

KNOWLEDGE ON IRON SUPPLEMENTS:-In our study most of the pregnant women were belongs to knowledge on iron supplements.

DISCUSSION: WHO reports shows that 35-75°/o of pregnant women in developing countries are an mic and Indiah as the highest prevalence rate of anemia. In the present study, a prevalence rate of (73.3%) was observed. Similarly R.G.Viveki (74.1%), Agarwal (73.7%) of prevalence rate was seen in contrastvery high prevalence observed by Gowthamet.al (96.8%) (137) and low prevalence 1n Nepal (42.5%) is observed by prashantD et.al.

CONCLUSION: The study concludes that high prevalence rate of anemia are pregnant women (73.3%) states clearly that anemia is a major health problem in rural area.

THE EFFECT OF METFORMIN ON CULTURE CONVERSION IN PATIENTS WITH TUBERCULOSIS USING STANDARD ATT AND SUFFERING FROM TYPE 2 DIABETES MELLITUS A RETROSPECTIVE COHORT STUDY

SWATHI GADDAMIDI, Assistant Professor AZAD COLLEGE OF PHARMACY

ABSTRACT

Background: Patients with diabetemcllitus (DM) and tuberculosis (TB) have high risk of Treatment failure. However we have examined the effect of metfirmin and TB treatment especially with DM.

Aim: To assess the impact of metformin conversion in TB patients with type-2 diabetemellitus.

Methods: This retrospective cohort study included patients with culture-positive pulmonary TB TB diagnosed between 2021 and 2022.The primary study outcome was sputum culture conversion after 2 months of treatment.

Results: Out of 870 patients, 586 patients were diagnosed with culture proven pulmonary TB 196 patients were diagnosed with DM (33%) among them 110 (56%) were treated with metformin. Baseline characteristic, except CKD, statin has significant difference between the metformin and non-metformin users.

Conclusion: Though a greater number of metformin users achieved a negative conversion than non-metformin users. We are not able to clearly say metformin usage is the only reason for that conversion. Some other factors like statin usage, having a history of TB may also affect the study result. So, there is a good scope for conducting this study a san RCT which is of a higher scientific value to prove metformin is a good antibiotic drug with anti TB activity.

EFFECT OF POLY PHARMACY ON ADRS AMONG GERIATRICS

YELLU SAMARASIMHAREDDY, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Introduction: In this project, we have provided better evaluation of the benefit and harm profiles of drugs plays as an essential part of evaluating ADR'S reports in early warning systems and for Regulatory purpose. Polyphannacy has been variably defined across literature with the most, common definition thus far as "taking five or more medications concurrently".

Aim and Objective: To determine the adverse drug reaction (ADRs) in polypharmacy among the geriatrics. We have provided relationship between the drug and events and monitoring and assessment of ADRs ingeriatrics.

Methodology: Adverse drug reaction as "an appreciably harmful or unpleasant reaction, resulting from an intervention related to the use of a medicinal product, which predicts hazard from future administration and warrants prevention nor specific treatment, or alteration of the dosage regimen, or withdrawal of the product ."While some ADRs are unpredictable such as anaphylaxis in a patient after one previous uneventful exposure to a penicillin containing antibiotic many are preventable with adequate foresight and monitoring. Epidemiological studies tend to find that between a third and a half of ADRs are (atleast potentially) preventable although preventability is much easier to diagnose inhindsight.

Results: Out of 120 geriatric patients with polypharmacy enrolled in the study 70 with 58.33% than females 50 with 42%. In this study there were more males than females. In this study there were 90 (75%) patients with hypertension, 85 (70.83%) were enrolled with diabetes Mellitus and 60 (50%) of chronic kidney disease, 65 (54.16%) were of anaemia.

ANTI DIABETIC AND ANTI HYPERLIPEDIMIC ACTIVITY OF VARIOUS RICE PRODUCTS

MOHAMMAD KHAN, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Oryza sativa belonging to the family Gramineae and subfamily oryzoides is the second most important cereal crop and staple food for more than half of the world's population. Rice is a grain belonging to the grass family. It is related to the other grass plant such as wheat, oats and barley which produce grain for food and also known as cereals.

The present study work aims to evaluate the pharmacological activities such as anti diabetic and Anti hyperlipidemic effects of the various rice products, these helps to identify phytochemical constituents of rice varieties present in rice products and to extract the active constituents of the rice varieties by using various Solvents such as ethanol, methanol, hexaneal so to determine the pharmacological activities ie., anti diabetic and anti hyperlipidemic activities of various extracts of nee.

We conclude that brown rice with glycemic index55 (normal) is very useful because rich in carbohydrates, fiber, antioxidants, vitamins, and minerals may improve blood sugar control, thereby helping manage diabetes and it contains flavonoids with potent antioxidants by eating these foods is associated with reduce d risk of chronic illness, cardiovascular disease, kidney damage, cancer, Alzheimer's disease. They also boost fullness and weight loss.

ANTIHYPER LIPIDAMIC EFFECTS OF CROTALARIA JUNCEA LEAF OF METHANOLIC AND ETHANOLIC EXTRACTS

BEGUM SABIHA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Objective: To evaluate the antihyper cholesterolemic effects of 50 mg/kg BW and 100 mg/kg BW per day of an ethanolic extract of *Crotalaria juncea* Linn (whole plant) by performing *in vivo* studies.

Methods: The effects of oral administration of 50 mg/kg BW and 100 mg/kg BW per day of an ethanolic extract of *Crotalaria juncea* Linn (whole plant) in rats fed with a high-fat diet were investigated by evaluating parameters like food consumption, weight gain, fecal fat excretion, serum and liver lipids, and biochemical profiles as well as by histopathological studies. The results were compared to animals fed with the standard diet and animals fed with a high-fat diet and atorvastatin (10 mg/kg BW).

Results: The animal group administered with the ethanolic extract for 35 days showed decreased levels of TC, LDL, VLDL, TG, HDL+VLDL, VLDL+LDL, LDL/TC, AI, SGOT, SGPT, and elevated levels of HDL, HDL/TC, significantly ($p<0.01$ & $p<0.05$) in a dose-dependent manner. The evaluation of liver tissues of the animal groups treated with the herbal extract and standard had shown increased levels of SOD, GSH, and catalase, whereas levels of SGOT, SGPT, total glucose, HMG-CoA, lipase, amylase, and the percentage of malon-dialdehyde were decreased when compared with the high-fat diet-fed rats. Body weight and food intake in the treated groups were significantly lower than that in the model control.

Conclusion: The present study showed that an ethanolic extract of *Crotalaria juncea* L. influences several blood lipid and metabolic parameters in rats, suggesting a potential benefit as an antihyper cholesterolemic agent.

STUDY TO INVESTIGATE PHYTOCHEMICAL AND ANTI MICROBIAL ACTIVITY OF WRIGHTIA TINCTORIA AEGLE MARMELOS

PITTALA GIRIJA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Wright iriatinctoria is a perennial ornamental woody plant; belong to Apocynaceae family available throughout India. Various parts of this plant like stem bark, leaves, flowers and seed have been known to possess medicinal properties like anti-inflammatory, antiviral, antibacterial, wound healing, anticancer, anti-ulceretc. The present paper is an attempt to provide a detailed botanical description, classification, pytochemical and pharmacological study of the plant.

The therapeutic value of Aeglemarmelos Correa (Rutaceae), commonly known as 'Bael', has been recognized as a component of traditional medication for the treatment of various human ailments. The plant, though, being highly explored, still lacks sufficient evidences for the best variety possessing the highest degree of medicinal values. The present study is focused on phytochemical screening of aqueous and methanolic leaf extracts of 18 varieties/accessions of A.marmelos. The crude extracts of A.marmelos revealed the presence of several biologically active phytocliemicals with the highest quantity of alkaloids, flavonoids, and phenols in Pant Aparna variety. The antibacterial efficacy was investigated against pathogenic bacterial strains and the highest inhibitory activity of aqueous extract was obtained against S.epidermidis, whereas methanolic extract was found to be most potent against S. aureus at 40 mg/mL concentration.

However, in aqueous: ethanol, the best results were observed against E.aerogenes Followed by K.pneumonia and S.epidermidis. The MIC of aqueous and in ethanol extract of Aegle marmelos ranged from10mg/mL to 40mg/mL whereas in aqueous: ethanolic ranged between 40 mg/mL and 160mg/ml. The GC-MS analysis revealed the presence of many bioactive compounds such as flavonoids, alcohols, aldehydes, aromatic compounds, fatty acid methyl esters, terpenoids, phenolics, and steroids that can be postulated for antibacterial activity.

UTILIZATION AND EVALUATION OF ANTI HYPERTENSIVE DRUGS IN THE HYPERTENSIVE PATIENTS IN A TERTIARY CARE TEACHING HOSPITALS

ZAREENA BEGUM, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Aim: Hypertension represents a major health problem primarily because of its role in contributing to the initiation and progression of major cardiovascular diseases. Concerns pertaining to hypertension and its sequelae can be substantially addressed and consequent burden of disease reduced by early detection and appropriate therapy of elevated blood pressure. This cross-sectional observational study aims at analyzing the utilization pattern of antihypertensives used for the treatment of hypertension at a tertiary care hospital in perspective of standard treatment guidelines.

Materials and Methods: Prescriptions were screened for antihypertensives at the medicine outpatient department of a tertiary care teaching hospital. Medical records of the patients were scrutinized after which 286 prescriptions of patients suffering from hypertension were included. The collected data were sorted and analyzed on the basis of demographic characteristics and comorbidities.

Results: The calcium channel blockers were the most frequently used antihypertensive class of drugs (72.3%). Amlodipine (55.6%) was the single most frequently prescribed antihypertensive agent. The utilization of thiazide diuretics was 9%. Adherence to the National List of Essential Medicines (NLEMs) was 65%. The combination therapy was used more frequently (51.5%) than monotherapy (48.8%). The use of angiotensin-converting enzyme inhibitors/angiotensin 2 receptor blockers (ACE-I/ARB) was 41.4% in diabetes.

Conclusions: The treatment pattern, in general, conformed to standard treatment guidelines. Few areas, however, need to be addressed such as the underutilization of thiazide diuretics, need for more awareness of drugs from the NLEMs and enhanced use of ACE-I/ARB in diabetic hypertensives.

EVALUATION AND PHYTOCHEMICAL SCREENING AND ANTIBACTERIAL ACTIVITY OF FICUS DALHOUSIAE MIQ

MAHESH GAJJELA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

The aim of the present study was to isolate the Extract from the leaves of Ficus dalhousiae Miq and subse-quently evaluates their antibacterial and antifungal activity. The crude various extracts of the plant n-Hexane, Chloroform, Ethyl acetate, Methanol extract was obtained by using continuous soxhlation technique using soxhlet apparatus. The antibacterial activity of plant extract were carried using cup plate method against three bacterial species Staphylococcus aures, Bacillus subtilis, Escherichia coli using agar diffusion method. Those are compared with standard reference drug Ciprofloxacin. This study confirmed that bark extracts have more active constituents compare to leaf extracts. by pharmacological evaluation of Ficus dalhousea Miq. Various extracts, most of them are capable of showing moderate antibacterial activity.

EVALUATION OF PHARMACOLOGICAL ACTIVITY OF CHADRAPRABHA VATI ON SERUM OF ALBINO WISTAR STRAIN RATS

*, Assistant Professor AZAD COLLEGE OF PHARMACY

JONGONI SOWJANYA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

The current study is to develop the acute and sub-acute toxicity profile of some ayurvedic Bhasma and understand the side effects due to the presence of heavy metals. Chandra prabhavati pill were weighed, powdery and suspended in water had made into liquid formulation. The animals were classified and treated with the doses of Chandra prabhavati (50and five hundred mg/kg) in rat. The dose was calculated by extrapolating the equivalent human dose (1 and ten times) and was administered orally between ten and eleven after median daily for twenty eight days, during alylin a very volume not exceeding one ml/100 g rat weight. Blood was collected on seven, fourteen and twenty eight days, later they were sacrificed for histopathological studies.

DEVELOPMENT AND VALIDATION OF NEW ANALYTICAL METHODS FOR THE ESTIMATION OF RUFINAMIDE IN BULK AND PHARMACEUTICAL DOSAGE FORMS

RAMAVATH AKSHATHA NAIK, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Development of methods to achieve the final goal of ensuring the quantity of drug substances and drug products is not a trivial undertaking. The capabilities of the three methods were complementary to each other. Hence they can be regarded as simple, specific and sensitive methods for the estimation of Rufinamide in bulk and pharmaceutical dosage forms. A very few analytical methods appeared in the literature for the determination of Rufinamide, which includes HPLC, UV-Vis Spectrophotometric methods and LC-MS / MS methods has been reported for Rufinamide. In view of the above fact, some simple analytical methods were planned to develop with sensitivity, accuracy, precision and economical. The present investigation, simple, sensitive, precise and accurate RP-HPLC method was developed for the quantitative estimation of Rufinamide in its bulk and pharmaceutical dosage forms. The results are expressed in Table: 5.11 – 5.28. The RP-HPLC method was more sensitive, accurate and precise compared to the Spectrophotometric methods. This method can be used for the routine determination of Rufinamide in bulk drug and in pharmaceutical dosage forms.

IN-VITRO ANTIOXIDANT ACTIVITY OF KEDROSTIS FOETIDISSIMA (JACQ) COGN

, Assistant Professor AZAD COLLEGE OF PHARMACY

NALLAMETLA SAI KUMAR

Abstract:

The present study is to evaluate a systemic record of the relative antioxidant activity of *Kedrostis foetidissima*. The ethanolic extract of *Kedrostis foetidissima* was screened for their free radical, hydroxyl radical, superoxide and nitric oxide scavenging activity. Total antioxidant activities of ethanolic extract were compared with standard antioxidants ascorbic acid, copper sulphate 2, 6- di-ter-butyl-p-hydroxytoluene (BHT). Results indicate the ethanolic extract exhibited antioxidant potential of *in-vitro* screening methods. The results indicate that ethanolic extract showed moderate activity against standard drugs

RP-HPLC METHOD FOR THE DETERMINATION AND QUANTIFICATION OF ARTESUNATE

TARANNUM FATIMA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

A simple, rapid and cost-effective reverse phase high-performance liquid chromatographic (RP-HPLC) method was developed for the quantification of artesunate. C18 Promosil (ODS, 150 × 4.6 mm, 5 μm) column was used as stationary phase to separate the drug. Mobile phase comprised of ethanol: water (65:35) having pH 4.5 was run isocratically at a flow rate of 1 mL/min at 27°C. The method was validated according to ICH guidelines for linearity, precision, accuracy, robustness, specificity, limit of detection (LOD) and limit of quantification (LOQ). The method was found accurate, precise and robust with an average retention time of 4.509 min and 0.5357 %RSD. Good linearity was observed in the concentration range of 2–10 mg/ml with regression coefficient R2 value of 0.9995 and slope value of 369,928. Conclusively, as per ICH norms, the developed method was successfully validated and used for the quantification of artesunate in fast dissolving tablets (FDTs).

PHARMACOLOGICAL STUDIES OF ANTI-DIARRHOEAL ACTIVITY OF MALACHRA CAPITATA (L.) IN EXPERIMENTAL ANIMALS

TEJAKUMAR REDDY KONATHAM, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

The purpose of the present study was to evaluate scientifically the anti-diarrhoeal effects of aqueous extract of roots of Malachra capitata Linn (AMC) was studied against castor oil-induced-diarrhoea model in rats. Antidiarrhoeal activity of aqueous extract of Malachra capitata was investigated in this study using castor oil-induced-diarrhoea, enteropooling and Small intestinal transit models in rats. The weight and volume of intestinal content induced by castor oil were studied by enteropooling method. Standard drug diphenoxylate (5 ml/kg, p.o) was significant reductions in fecal output and frequency of droppings whereas AMC at the doses of 200 and 400 mg/kg p.o was significant reductions in fecal output and frequency and consistency of diarrhoea and enteropooling. The gastrointestinal transit rate was expressed as the percentage of the longest distance travelled by the charcoal divided by the total length of the small intestine. AMC at the doses of 200 and 400 mg/kg significantly inhibited ($P<0.001$) the castor oil induced charcoal meal transit. The AMC showed marked reduction in the number of diarrhoea stools and the reduction in the weight and volume of the intestinal contents, as well as a modest reduction in intestinal transit. The results obtained establish the efficacy and substantiate the folklore claim as an anti- diarrheal agent. Further studies are needed to completely understand the mechanism of anti-diarrhoeal action of Malachra capitata.

USE OF A SIMULTANEOUS EQUATION METHOD TO DETERMINE AZITHROMYCIN AND CEFIXIME TRIHYDRATE IN THE FORMULA FOR A TABLET

FASIUDDIN AHMED, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

For the simultaneous determination of azithromycin (AZI) and cefixime trihydrate (CEFI) in tablet formulation, a straightforward, accurate, and exact uv-spectrophotometric approach has been devised. The approach was based on analysing the two medications simultaneously using equations. In methanol, AZI and CEFI have both demonstrated absorbance maxima at 222 and 289 nm, respectively. Both medicines adhered to linearity in the concentration range of 10–50 g/ml, with a remarkably high correlation value (r2 = 0.999). The respective limits of quantitation for AZI and CEFI were 2.40 and 4.60 g/ml, while the respective limits of detection for AZI and CEFI were 0.81 and 1.52 g/ml. Validation demonstrated the suggested method's suitability for quantitative drug determination. The technique worked well to examine a pill formulation.

IMPORTANCE OF RP-HPLC IN ANALYTICAL METHOD DEVELOPMENT: A REVIEW

THOKANOLA LALAPPA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Chromatography, although primarily a separation technique, is mostly employed in chemical analysis in which High-performance liquid chromatography (HPLC) is an extremely versatile technique where analytes are separated by passage through a column packed with micrometer-sized particles. Now a day reversed-phase chromatography is the most commonly used separation technique in HPLC. The reasons for this include the simplicity, versatility, and scope of the reversed-phase method as it is able to handle compounds of a diverse polarity and molecular mass. Reversed phase chromatography has found both analytical and preparative applications in the area of biochemical separation and purification. Molecules that possess some degree of hydrophobic character, such as proteins, peptides and nucleic acids, can be separated by reversed phase chromatography with excellent recovery and resolution. This review covers the importance of RP-HPLC in analytical method development and their strategies along with brief knowledge of critical chromatographic parameters need to be optimized for an efficient method development.

NEW SIMPLE SPECTROPHOTOMETRIC METHOD FOR THE SIMULTANEOUS ESTIMATION OF PARACETAMOL AND FLUPIRTINE MALEATE IN PURE AND PHARMACEUTICAL DOSAGE FORM

PADMA GUNTI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

A new, simple, precise, accurate, reproducible, and efficient Vierordt's method or simultaneous equation method was developed and validated for simultaneous estimation of paracetamol and flupirtine maleate in pure and pharmaceutical dosage form. The method was based on the measurement of absorbance at two wavelengths 245 nm and 344.5 nm, of paracetamol and flupiritine maleate in 0.1 N HCl correspondingly. Calibration curves of paracetamol and flupiritine maleate were found to be linear in the concentration ranges of 5–15 μg/mL and 1.53–4.61 μg/mL, respectively, with their correlation coefficient values (R^2) 0.999. LOD and LOQ were 185.90 ng/mL and 563.38 ng/mL for paracetamol and 78.89 ng/mL and 239.06 ng/mL for flupiritine maleate. In the precision study, the % RSD value was found within limits (%). The percentage recovery at various concentration levels varied from 99.18 to 100.02% for paracetamol and 98.47 to 100.09% for flupiritine maleate confirming that the projected method is accurate. It could be concluded from the results obtained in the present investigation that this method for simultaneous estimation of paracetamol and flupirtine maleate in pure and tablet dosage form is simple, accurate, precise, and economical. The proposed method can be applied successfully for the simultaneous estimation of paracetamol and flupiritine maleate in pure and pharmaceutical dosage form.

ANTIMICROBIAL ACTIVITY AND PHYTOCHEMICAL ANALYSIS OF ORGANIC EXTRACTS FROM CLEOME SPINOSA JAQC.

KULSUM SUBHIYA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Due to the use of Cleome spinosa Jacq. (Cleomaceae) in traditional medicine against inflammatory and infectious processes, this study evaluated the in vitro antimicrobial potential and phytochemical composition of extracts from its roots and leaves. From leaves (L) and roots (R) of C. spinosa different extracts were obtained (cyclohexane: ChL and ChR; chloroform: CL and CR; ethyl acetate: EAL and EAR, methanol: ML and MR). The antimicrobial activity was evaluated by the broth microdilution method to obtain the minimum inhibitory (MIC) and microbicidal (MMC) concentrations against 17 species, including bacteria and yeasts. Additionally, antimicrobial and combinatory effects with oxacillin were assessed against eight clinical isolates of Staphylococcus aureus. All C. spinosa extracts showed a broad spectrum of antimicrobial activity, as they have inhibited all tested bacteria and yeasts. This activity seems to be related to the phytochemicals (flavonoid, terpenoids and saponins) detected into the extracts of C. spinosa. ChL and CL extracts were the most actives, with MIC less than 1 mg/mL against S. aureus, Bacillus subtilis, and Micrococcus luteus. It is important to note that these concentrations are much lower than their 50% hemolysis concentration (HC50) values. Strong correlations were found between the average MIC against S. aureus and their phenolic ($r = -0.89$) and flavonoid content ($r = -0.87$), reinforcing the possible role of these metabolite classes on the antimicrobial activity of C. spinosa derived extracts. Moreover, CL and CR showed the best inhibitory activity against S. aureus clinical isolates, they also showed synergistic action with oxacillin against all these strains (at least at one combined proportion). These results encourage the identification of active substances which could be used as lead(s) molecules in the development of new antimicrobial drugs.

RED BLOOD CELL

BEGUM NAUSHEEN, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:Human red blood cells (RBC) are highly differentiated cells that have lost all organelles and most intracellular machineries during their maturation process. RBC are fundamental for the nearly all basic physiologic dynamics and they are key cells in the body's respiratory system by being responsible for the oxygen transport to all cells and tissues, and delivery of carbon dioxide to the lungs. With their flexible structure RBC are capable to deform in order to travel through all blood vessels including very small capillaries. Throughout their in average 120 days lifespan, human RBC travel in the bloodstream and come in contact with a broad range of different cell types. In fact, RBC are able to interact and communicate with endothelial cells (ECs), platelets, macrophages, and bacteria. Additionally, they are involved in the maintenance of thrombosis and hemostasis and play an important role in the immune response against pathogens. To clarify the mechanisms of interaction of RBC and these other cells both in health and disease as well as to highlight the role of important key players, we focused our interest on RBC membrane components such as ion channels, proteins, and phospholipids.An overview of current knowledge on the interaction of RBC with other cells, ECs and platelets, in physiological and disease conditions, is presented here. Both direct interactions through receptors on the RBC and other key players, such as ECs, platelets, WBC, macrophages, other RBC, have been discussed, as well as indirect interactions between thesecells . Indirect interaction can occur through plasma ligands, proteins and released molecules or particles from these cells. Other indirect interactions described in this review are mechanical: these kind of interactions are focused on the dynamic and rheological distribution of RBC in contact with other cells in physiological flow conditions. This underlines the complexity of the global interactions in which the mature RBC are involved and, more importantly, addresses a crucial attention to the pathological circumstances.

WILSON DISEASE

KOTA RADHIKA *, Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:Wilson’s disease is an autosomal-recessive disorder caused by mutation in the ATP7B gene, with resultant impairment of biliary excretion of copper. Subsequent copper accumulation, first in the liver but ultimately in the brain and other tissues, produces protean clinical manifestations that may include hepatic, neurological, psychiatric, ophthalmological, and other derangements. Genetic testing is impractical because of the multitude of mutations that have been identified, so accurate diagnosis relies on judicious use of a battery of laboratory and other diagnostic tests. Lifelong palliative treatment with a growing stable of medications, or with liver transplantation if needed, can successfully ameliorate or prevent the progressive deterioration and eventual death that would otherwise inevitably ensue. This article discusses the epidemiology, genetics, pathophysiology, clinical features, diagnostic testing, and treatment of Wilson’s disease.Clinical practice guidelines for Wilson's disease (WD) have been published by the American Association for the Study of Liver Diseases and European Association for the Study of the Liver in 2008 and 2012, respectively. Their focus was on the hepatic aspects of the disease. Recently, a position paper on pediatric WD was published by the European Society of Pediatric Gastroenterology Hepatology and Nutrition. A need was felt to harmonize guidelines for the hepatic, pediatric, and neurological aspects of the disease and contextualize them to the resource-constrained settings. Therefore, experts from national societies from India representing 3 disciplines, hepatology (Indian National Association for Study of the Liver), pediatrichepatology (Indian Society of Pediatric Gastroenterology, Hepatology and Nutrition), and neurology (Movement Disorders Society of India) got together to evolve fresh guidelines. A literature search on retrospective and prospective studies of WD using MEDLINE (PubMed) was performed. Members voted on each recommendation, using the nominal voting technique. The Grades of Recommendation, Assessment, Development and Evaluation system was used to determine the quality of evidence. Questions related to diagnostic tests, scoring system, and its modification to a version suitable for resource-constrained settings were posed. While ceruloplasmin and 24-h urine copper continue to be important, there is litte

MEDICINAL HERBS TO TREAT HYPERTENSION

KALLEM SRIKRISHNA GOUD, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract : Hpertension is a common problem facing many peoples today. Although billions of dollars are spent annually for the treatment and detection of cardiovascular disease, current conventional treatments have done little to reduce the number of patients with hypertension. Alternative medicine offers an effective way to decrease the rising number of people with high blood pressure. Research has found a variety of alternative therapies to be successful in reducing high blood pressure including diet, exercise, stress, management, supplements and herbs. Every year, more and more studies are being performed on herbal remedies for high blood pressure. There are many herbal drugs like Punarnava, Barberry, Rouwolfia, Garlic, Ginger, Ginseng and Arjuna which can safely use for the treatment of hypertension. Hypertension (HTN) is the medical term for high blood pressure. It is dangerous because it makes the heart work too hard and contributes to atherosclerosis (hardening of arteries), besides increasing the risk of heart disease and stroke. HTN can also lead to other conditions such as congestive heart failure, kidney disease, and blindness. Conventional antihypertensives are usually associated with many side effects. About 75 to 80% of the world population use herbal medicines, mainly in developing countries, for primary health care because of their better acceptability with human body and lesser side effects. In the last three decades, a lot of concerted efforts have been channeled into researching the local plants with hypotensive and antihypertensive therapeutic values. The hypotensive and antihypertensive effects of some of these medicinal plants have been validated and others disproved. However, ayurvedic knowledge needs to be coupled with modern medicine and more scientific research needs to be done to verify the effectiveness, and elucidate the safety profile of such herbal remedies for their antihypertensive potential.

FORMULATION AND EVALUATION OF SOLID DISPERSION

MANI TEJA VENKATA TENNETI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract Aceclofenac (2-[(2, 6-dichlorophenyl) amine] phenylacetoxyacetic acid) is an orally effective non-steroidal anti-inflammatory drug (NSAID) of phenyl acetic acid group, which possesses remarkable anti-inflammatory, analgesic and antipyretic properties [1], [2]. Aceclofenac appears to be particularly well-tolerated among the NSAIDs, with a lower incidence of gastrointestinal adverse effects [3]. Unfortunately, aceclofenac suffers from low aqueous solubility (0.058 μg/ml), leading to poor dissolution and insufficient oral bioavailability. The biopharmaceutical classification system (BSC) divides all drug candidates into four different groups, according to their solubility and permeability [4]. Aceclofenac is an example of BSC class II compound, its oral bioavailability is determined by dissolution rate in the gastrointestinal tract [5], [6]. Therefore, the improvement of aceclofenac dissolution is an important issue for enhancing its bioavailability and therapeutic efficacy. The present study was carried out with a view to enhance dissolution rate of poorly water-soluble drug aceclofenac (BCS-class II) using Avicel 200 and Sylysia 350 as polymers. Surface solid dispersion (SSD) was prepared by kneading method using different ratios of aceclofenac and polymers. Phase solubility study was conducted to evaluate the effect of polymer on aqueous solubility of aceclofenac. Solid state characterization was evaluated by Scanning electron microscopy (SEM), Fourier transformation infrared spectroscopy (FTIR), Differential scanning calorimetry (DSC) and X-ray diffraction study (XRD). *In vitro* dissolution study was performed in phosphate buffer at pH 6.8. Solid state study showed partial interaction between aceclofenac and polymer. *In vitro* dissolution rate of aceclofenac from solid dispersion (SD) was significantly higher compared to pure aceclofenac. The dissolution rate of the drug was affected by nature and amount of polymer used. The dissolution rate of aceclofenac/Avicel 200 solid dispersion (1:5) was higher than that of aceclofenac/Sylysia 350 solid dispersion (1:3). Thus, solid dispersion technique can be successfully used for the improvement of the dissolution profile of aceclofenac.

WHO GUIDELINES ON SAFETY MONITORING OF HERBAL MEDICINE IN PHARMACOVIGILANCE SYSTEM

NAGENDRA BABU MOKARA , *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract The WHO has welcomed the active participation of drug regulatory authorities and national pharmacovigilance centers, among others, in the development of these guidelines. This has provided a useful starting point for strengthening communication between these authorities, which will be needed to ensure progress toward the common goal—the safety of herbal medicines. The recommended approach is to include herbal medicines in the existing national pharmacovigilance systems or, where such systems have not yet been developed, to establish comprehensive national pharmacovigilance systems, which incorporate coverage of herbal medicines. The guidelines therefore identify the particular challenges posed in monitoring the safety of herbal medicines effectively and propose approaches for overcoming them. Special attention is also given to the reporting system for adverse reactions to herbal medicines, and to the analysis of the causes of the reported adverse reactions. Currently, a majority of the adverse events related to the use of herbal products and herbal medicines that are reported are attributable either to poor product quality or to improper use. Inadequate regulatory measures, weak quality control systems, and largely uncontrolled distribution channels (including mail order and Internet sales) may have been contributing to the occurrence of such events. In order to expand the knowledge about genuine adverse reactions to herbal medicines, and to avoid wasting scarce resources for identifying and analyzing adverse events, events resulting from such situations will need to be reduced or eliminated. Member States of the World Health Organization (WHO) are therefore encouraged to strengthen national regulation, registration and quality assurance and control of herbal medicines. In addition, the national health authorities should give greater attention to consumer education and to qualified practice in the provision of herbal medicines.

DETERMINATION OF CASEIN PRESENT IN DIFFERENT MILK SAMP

PAVAN NAKKA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract Casein (from Latin caseus"cheese") is a family of related phosphor proteins (αS1, αS2, β, κ). These proteins are commonly found in mammalian milk, comprising c. 80% of the proteins in cow's milk and between 20% and 45% of the proteins in human milk. The Casein has a wide variety of uses, from being a major component of chees , to use as a food additive. The most common form of casein is Sodium caseinate. As a food source, casein supplies amino acids,carbohydrates, and two essential elements, calcium and phosphorus. Casein contains a high number of proline residues,which do not interact. There are also no disulfide bridges. As a result, it has relatively little tertiary structure. It is relatively hydrophobic, making it poorly soluble in water. It is found in milk as a suspension of particles, called casein micelles, which show only limited resemblance with surfactant-type micelles in a sense that the hydrophilic parts reside at the surface and they are spherical. However, in sharp contrast to surfactant micelles, the interior of a casein micelle is highly hydrated. The caseins in the micelles are held together by calcium ions and hydrophobic interactions. Any of several molecular models could account for the special conformation of casein in the micelles.One of them proposes the micellar nucleus is formed by several sub micelles, the periphery consisting of micro vellosities of κ-casein. Another model suggests the nucleus is formed by casein-interlinked fibrils. Finally, the most recent model proposes a double link among the caseins for gelling to take place. All three models consider micelles as colloidal particles formed by casein aggregates wrapped up in soluble κ-casein molecules. The iso electric point of casein is 4.6. Since milk's pH is6.6, casein has a negative charge in milk. The purified protein is water-insoluble.While it is also insoluble in neutral salt solutions, it is readily dispersible in dilute alkalis and in salt solutions such as aqueous sodiumoxalate and sodium acetate. The enzyme trypsin can hydrolyze a phosphate-containing peptone.

REVIEW ON HYPERTENSION

VINAY KUMAR PERKA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

The aim of the study was to conduct a meta-analysis of epidemiological and case control studies to determine whether arterial hypertension is specifically associated with an increased risk of vascular dementia (VaD).Longitudinal and cross-sectional prospective studies using operationalised criteria to define VaD and hypertension, with a normal control comparison group were systematically reviewed. Cochrane Library, Embase, Medline, and PsycInfo data sources were searched along with reference lists of included articles and reviews. Original, prevalence or incidence studies were included if operationalised criteria for hypertension and VaD as well as number of cases with and without hypertension in VaD and non-demented groups were provided. Intervention studies and post-stroke and CADASIL studies were excluded.Eleven studies recruiting either volunteers or clinical patients, or which were population-based, examined a total of 768 people with VaD and 9857 control cases. Hypertension, coronary heart disease (CHD), and anxiety disorders all cause substantial morbidity to patients and costs to the healthcare system. Associations between these diseases have been hypothesized and studied for decades. In particular, psychosocial stressors associated with anxiety disorders raise autonomic arousal via the hypothalamic-pituitary axis which increases circulating catecholamines. This heightened arousal is associated with an increased risk of hypertension and a pro-inflammatory state and, consequently, development of coronary heart disease. This association holds across the spectrum of anxiety disorders (generalized anxiety, posttraumatic stress

disorder, panic disorder, and obsessive compulsive disorder) and also when controlling for comorbid conditions such as depression and physical ailments. Multiple cross sectional studies reveal a positive association between anxiety and hypertension. These associations are bidirectional, with those with hypertension being more likely to have anxiety and those with anxiety being more likely to have hypertension. However, a few studies have shown no association. Longitudinal studies point to an increased risk of development of hypertension in patients who suffer from anxiety. More convincing studies show links between anxiety symptoms and disorders, including panic disorder and PTSD, and cardiovascular outcomes. Drawing broad conclusions from these studies is challenging, however, given the multiplicity of scales used to measure anxiety disorders. Anxiety, hypertension, and CHD are common conditions seen in primary care, and anxiety may be an important predictor of future CHD outcomes. Better recognition of the association of these conditions and the possible roles of each in development of the other should alert primary care providers to bevigilant in monitoring and treating anxiety, hypertension, and CHD.

A REVIEW ON ARTIFICIAL INTELLIGENCE IN

RADHIKA VADDEPALLI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract: Artificial intelligence is revolutionizing-and strengthening-modern healthcare through technologies that can predict, grasp, learn, and act, whether it's employed to identify new relationships between genetic codes or to control surgery-assisting robots. It can detect minor patterns that humans would completely overlook. This study explores and discusses the various modern applications of AI in the health sector. Particularly, the study focuses on three most emerging areas of AI-powered healthcare: AI-led drug discovery, clinical trials, and patient care.

The findings suggest that pharmaceutical firms have benefited from AI in healthcare by speeding up their drug discovery process and automating target identification. Artificial Intelligence (AI) can help also to eliminate time-consuming data monitoring methods. The findings also indicate that AI-assisted clinical trials are capable of handling massive volumes of data and producing highly accurate results. Medical

AI companies develop systems that assist patients at every level. Patients' medical data is also analyzed by clinical intelligence, which provides insights to assist them improve their quality of life. The healthcare industry is in the midst of a transformation. The causes of this revolution are

rising total health-care cost and a growing lack of health-care experts. As a result, the healthcare industry is looking to implement new information technology-based solutions and processes that can cut costs and give solutions to these rising difficulties

DEVELOPMENT AND VALIDATION OF ANALYTICAL

GALVA BHARGAVI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract: The purpose of the research is to develop a simple, precise, economical, accurate, reproducible, and sensitive method for the estimation of velpatasvir drug product by rp-hplc method

Methods: New Analytical method was developed for the estimation of Velpatasvir drug product by liquid chromatography. The chromatographic separation was achieved on C18 column (Luna 18 150*4.6mm3.0um) at ambient temperature. The separation achieved employing a mobile phase consists of 0.1%v/v Formic acid in water: Methanol: Acetonitrile (35:40:25). The flow rate was 0.8ml/ minute and ultra violet detector at 269nm. The average retention time for Velpatasvir found to be 2.62 min.

Results: The developed method was validated as per the ICH analytical method validation guidelines. All validation parameters were within the acceptable range. The assay methods were found to be linear from 20-60µg/ml for Velpatasvir. The correlation coefficient was 0.9998 for velpatasvir . The mean percentage recovery for the developed method was found to be in the range of 98.4-100.4% for velpatasvir. The developed method was also found to be robust

Conclusion: The developed method was found to be suitable for the routine quantitative analysis of Velpatasvir in bulk and pharmaceutical dosage form. It was also concluded that developed method was accurate, precise, linear, reproducible, robust, and sensitive.

REVIEW ON SWINE FLU

KHAJA PASHA, Professor, AZAD COLLEGE OF PHARMACY

Abstract: Swine flu, also called Hog or Pig Flu, is a contamination because of someone of the several forms of Swine Influenza Virus (SIV). It is common place through pig populace worldwide. Until now only folks were inside the direct contact with pigs were found to get swine flu. But, H1N1 virus is a brand new swine flu virus and it includes the genetic material of swine, hen and human influenza virus.

H1N1 influenza or swine flu is a contagious disease this is as a result of the influenza virus. Infection with the H1N1 influenza virus can bring about intense illness and lifestyles threatening complications. Symptoms of H1N1 flu are similar to the ones of the common place flu and scientists are actively reading the scenario to better recognize its variety of signs and how it is spread. The intensity of this disorder may be lowered with the aid of diagnosing and taking proper treatments.

Most commonly, swine flu is of the H1N1 influenza subtype. However, swine flu viruses can once in a while come from other subtypes, along with H1N2, H3N1 and H3N2. The 2009 outbreak of swine flu that infected human beings changed into of the H1N1 subtype.

It is critical to notice that, even though it evolved in swine, the 2009 pandemic virus became not completely derived from swine. The virus incorporates a combination of flu genes from bird, swine and human flu types.

CHEMOTHERAPY OF ANTINEOPLASTIC DRUGS

SUMIA FATIMA, Associate Professor, AZAD COLLEGE OF PHARMACY

Abstract: Chemotherapeutics are chemical entities used to treat or cure cancers. These agents target critical processes for cell division in rapidly growing cancer cells. Most cancer drugs are derived from natural sources such as plants and bacteria, other are derived from synthetic or semi synthetic processes. Cancers can arise in virtually all tissues of the body, but the frequency of incidences varies depending on genetic influence, diet, lifestyle and environmental exposures.

The most common cancers worldwide are lung, breast and prostate cancers which have had increased survival due to improvements in diagnoses and treatment options. Naturally derived agents have been the mainstay of cancer therapy and the potential to uncover endemic compounds that may exhibit potent anticancer properties has driven research for novel anticancer agents.

A number of active agents or extracts from plants extracts have been studied for their anti-cancer properties, some of these will be discussed herein. The number of patients suffering from cancer is constantly increasing and, consequently, the number of different chemotherapy treatments administered is increasing. Given the high reactivity and toxicity of antineoplastic drugs, analytical methods are required in all pharmaceutical fields, from drug development to their elimination in wastewater; including formulation quality control, environment and human exposure and therapeutic drug monitoring.

GENE THERAPY

SAHEEL QURESHI, Assistant Professor AZAD COLLEGE OF PHARMACY

Abstract: Gene therapy promises to revolutionize medicine by treating the causes of disease rather than the symptoms. We are nearing the end of the first decade of gene therapy, and this article summarizes the approaches taken, results achieved, lessons learned and important recent developments.

The early results on the clinical efficacy of gene therapies were disappointing, largely because the available gene-transfer vectors proved to be inadequate. Recently, however, clinical benefit has been clearly demonstrated and great progress made in selecting and improving vectors. There is now every prospect that the second decade will see gene therapy live up to its enormous potential.

Gene-based therapies for cancer in clinical trials include strategies that involve augmentation of immunotherapeutic and chemotherapeutic approaches. These strategies include ex vivo and in vivo cytokine gene transfer, drug sensitization with genes for prodrug delivery, and the use of drug-resistance genes for bone marrow protection from high-dose chemotherapy. Inactivation of oncogene expression and gene replacement for tumor suppressor genes are among the strategies for targeting the underlying genetic lesions in the cancer cell. A review of clinical trial results to date, primarily in patients with very advanced cancers refractory to conventional treatments, indicates that these treatments can mediate tumor regression with acceptably low toxicity.

PHOTOCHEMICAL & BIOLOGICAL EVALUATION OF SPATHODEA CAMPANULATA

VENKATA RAMANA MUTTAVARAPU, Professor, AZAD COLLEGE OF PHARMACY

Abstract: Spathodea campanulata P. Beauv., belonging to the family Bignoniaceae, is a big erect tree with an ancient historyof medicinal use in Africa. In the traditional system, it is mentioned for the treatment of malaria, diabetes, stomachulcers, wounds, skin infections and viral diseases. The aim of the review is to make available the current informationthat exists on the traditional uses, phytochemistry, pharmacology, and toxicology of S. campanulata. Additionally, thepotential uses of this plant to treat various diseases and to bring in a foundation for further research are emphasized. The present review is carried out by compiling literature from 1972 to 2021, concerning the morphology, traditionaluses, phytochemistry, pharmacological activities, and toxicological aspects of S. campanulata. Literatures werecollected from various online search engines, viz. Google Scholar, PubMed, Science Direct, Core, and SemanticScholar. Diverse chemical compounds including iridoids, terpenoids, steroids, cinnamic acid derivatives, cerebrosides,flavonoids, and carotenoids have been isolated from this plant. In some in-vitro studies, the anticancer,antibacterial, antiviralinsecticidal, larvicidal, and anti-oxidant potential has been proved. Preclinical studies have demonstrated remarkableactivity which supports the conventional use of the plant as an antimalarial, wound healing, antidiabetic, antimicrobial,and anti-inflammatory agent for years without any adverse effects. Based on the results obtained from a combinationof in vivo and in vitro potency and toxicity studies reported, S. campanulata is a promising agent in the development of nutraceuticals against malaria and diabetes. The only clinical study documented is for curing malaria, but with crude extract only. With its current extensive traditional use, there is a need for additional studies of the isolated compounds, clinical trials, and product development to take full advantage of this widely distributed medicinal plant.

CARBON NANO TUBES

MUBEENA SALAAR, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Carbon nanotubes (CNTs) are one of the wonders of modern science discovered. CNTs have been regarded as the stiffest and the strongest material ever developed and received considerable interest in research because of their unique atomic structure, dimension and attractive properties. In the past decade, researchers made several attempts and efforts exploiting the exceptional properties of CNTs toward the development of CNTs applications. Nowadays the carbon nanotubes-derived products have smeared into our life step by step, and before long, they will function as essential components for technological innovations. A recent direction of research has been to try to gain further understanding by the use of computational methods and models which appeared with the advancement of computer technology. In this paper, a summary of recent research achievements related to the carbon nanotubes and their applications in nanomaterials. Several important aspects that influence the properties of carbon nanotube will also be discussed.

ECOSYSTEM IS A CRUCIAL ASSEMBLY FOR BALANCE ENVIRONMENT

MAHESH GOTTIPATI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT

Science that has emerged during the last few decades clearly demonstrates that the lifesupporting systems of the planet have already gone past their critical points. This is due to humanity's mindless use, exploitation, pollution, consumerism, and abuse of the resources of the planet —air, food, water, oceans, energy, rivers, soil, fish, forests, oil, timber, energy, gas, coal, minerals, and everything. In its endless adulation of greed, irrational accumulation of materialwealth, and seemingly insatiable quest for more comforts, pleasures, andconveniences, nothing has been spared.The effects of this assault can be seen everywhere.

Keyword : Economic dimensions: economic needs such as adequate livelihood and productive assets, and systems, and how these interact with the environment.

Social and cultural dimensions: social and cultural needs and systems, e.g. health, education, shelter, equity, cultural institutions and norms, and their relationship with the environment. Political dimensions:political needs (ability to participate in decision-making processes) and systems, and how they influence the environment.

FORMULATION AND EVALUATION OF ORAL DISPERSIBLE TABLET OF ATORVASTATIN

MOHAMMAD TABASSU TANVEER HAYATH, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Orodispersible tablets (ODTs), also known as fast melt, quick melts, fast disintegrating have the unique property of disintegrating in the mouth in seconds without chewing and the need of water. Oral bioavailability of Atorvastatin Calcium is low (14%) and shows extensive intestinal clearance and first-pass metabolism, which is the main cause for the low systemic availability. In the present work, orodispersible tablets of Atorvastatin calcium were prepared by direct compression method using Hibiscus rosa sinesis mucilage as natural superdisintegrant with a view to enhance patient compliance and to avoid hepatic first pass metabolism and to improve its bioavailability. The prepared batches of tablets were evaluated for hardness, friability, drug content uniformity, wetting time, water-absorption ratio and in-vitro dispersion time. Short-term stability studies on the promising formulation indicated that there are no significant changes in drug content and in vitro dispersion time.

IMPACT OF SCREEN TIME ON SLEEP QUALITY AND DURATION A CROSS SECTIONAL OBSERVATIONAL STUDY

IKRAM SARMAD MOHAMMAD MOHAMMAD ARSALAN

ABSTRACT:

Aim: To assess the impact of screen time on sleep quality duration.
Objectives: To assess the screen time, 2. To assess the awareness related to health effects of larger screen time and 3.To assess the sleep quality using Pittsburgh Sleep Quality Index.

Methodology: A prospective observational cross-sectional study conducted in an urban region of Madanapalli. Mobile users of both genders of any age, who are willing to participate in the study giving informed Consent, were included as study sample. A questionnaire as prepared by extensively reviewing questionnaires from previous studies that evaluate the mobile usage pattern and knowledge about health effects caused by EMR and Pittsburgh Sleep quality index Scale to asses sleep quality were used as study sample.

Results: 82.1%ofthe study population is using the smart phones with an average screen time of 7.5 hrs. Screen time is a little more in female population than males. Entertainment and media (47.1) and communication (28%) are the most commonly used application. 86.1% of population are aware about EMR and their health effects (71.5%). Sleep quality index as a little more in females (4.99) than male (4.6). A two tailed student' t' test conducted to assess the impact of screen time on PSQI score and a P Value of 0.08 was obtained.

Conclusion: Though it is known through the study that increase in screen time will affect sleep duration and quality of sleep an extensive evaluation should be done with more samples to improve the scientific strength. Even though the sample are aware
About EMR emission from Mobile phone and health effects most of them are not able to controlling their mobile phone usage.

DEVELOPMENT AND VALIDATION OF HESPERIDINE FROM ORANGE PEEL CITRUS AURANTIUM HPLC METHOD

SARA BANU, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract

Plant-derived compounds have been recognized by the feed industry as important supplements for livestock welfare and health. In this context, *Citrus aurantium* L. extract and *Origanum vulgare* L. essential oil have been demonstrated to have strong anti-inflammatory and antioxidant effects on animals. Being the composition of plant-derived extracts extremely influenced by the environmental and growing conditions of the plants, quality control is necessary in terms of the concentration of the active compounds to assure the reproducibility of natural feed additives. The present work aimed at the validation of the extraction procedure from feed additives of Hesperidin (HES) and Carvacrol (CAR), the main active compounds of *Citrus aurantium* and *Origanum vulgare* extracts. Then, the quantification method of both the analytes was developed and validated by reversed high-performance liquid chromatography coupled with a UV detector. The validated method was tested on premixtures and final feed additives supplied by a local feed factory to supervise the production chain. The extraction method with methanol resulted to be efficient and highly reproducible, with recovery higher than 90% for both the analytes. The chromatographic method has been demonstrated to be accurate, precise (relative standard deviation percent lower than 2.06%), and linear in the tested range concentrations, with regression coefficients equal to 0.995 and 0.999 for HES and CAR respectively. The method demonstrated that the feed additives prepared by the factory by diluting the premixtures were less concentrated than what was declared on the label.

SIMULTANEOUS ESTIMATION OF RANITIDINE AND PARACETAMOL BY USING UV SPECTROMETER

PRAKASH CHANDRA DASH, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Paracetamol and Metronidazole were commonly prescribed in combination as an anti-inflammatory agent. In Indonesia, a combination of these two drugs was compounded as divided powder dosage form. It was important to ensure the content uniformity of each compound to implement the patient-oriented medication. UV spectrophotometric combined with chemometrics techniques were developed to quantitatively analyze the content of paracetamol and Metronidazole in divided powder dosage form. Two multivariate calibration method namely principal component regression (PCR) and partial least squares (PLS) were applied in this study. After considering several statistical parameters such as coefficient of determination (R2), root mean square error of calibration (RMSEC), root mean square error of cross-validation (RMSECV), and root mean square error of prediction (RMSEP), the PLS model was chosen to be employed for determining the content of paracetamol and Metronidazole. The linear model for determining content of paracetamol and Metronidazole were y = 0.9877x + 0.4663 (R2=0.9959) and y = 0.9685x + 0.3401 (R2=0.9875), respectively. The chemometrics model was applied in the content uniformity analysis of divided powder dosage form samples.

FORMULATION AND EVALUATION OF LOMIFLOXACIN HYDROCHLORIDE FLOATING MICROSPHERES

PRAKASH CHANDRA DASH, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

The tablet was prepared using appropriate procedure n equipments. and then Post Compression Studies was performed accordingly. The post compression studies included Hardness Thickness, Friability, Weight Variation, Floating Lag Time, Floating Time, and Drug Release.the results of our study clearly indicate that Weight Variation data of the prepared tablets indicated no significant difference in the weight of the individual tablet from the average value. Hardness of the prepared tablets was observed in range of 1.263±0.07 to 1.184±0.05 kg/cm2 . Thickness of all the tablets was found in the range of 4.16±0.1 to 4.26±0.04 mm. Friability was found below 1%. The floating lag time was found to be in range of 15-22 sec. Total Floating Time was found to be in range of 6-7 Hrs. Swelling Index was found to be between 78 to 124%. Drug Release of FT4 was found to be the good i.e. 94.524%. From results it concludes that the floating lag time increased as hardness increased and F4 had better controlled release than the other formulations. So, formulation F4 provides a better option for Controlled release action and improved bioavailability of Lomifloxacin Hydrochloride Hydrochloride. On the basis of present study it was concluded that floating tablets of Lomifloxacin Hydrochloride hydrochloride can increase the gastric residence time as well as bioavailability and thus better patient's compliance can be achieved.

DISPOSAL PRACTICES OF UNUSED AND EXPIRY MEDICATION IN AN URBAN MUNICIPALITY IN SOUTH INDIA A CROSS SECTIONAL OBSERVATIONAL STUDY

SHAIK GOUSIA TAYABA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Background: Inappropriate medicine disposal practices may leads to environmental hazards and also affect health of the people. Aim and objective: To assess the disposal practice of unused and expiry medication in an urban municipal region of Madanapalli.

Methods: This was across sectional study conducted among 700 respondents using a self prepared and validated questionnaire comprising various components about the awareness practice and attitudes of disposal of unused and expiry medication among the Urban population of Madanapalli, a municipality in south India. Descriptive statistics were calculated using Statistical Package for Social Sciences (SPSS) version23.

Results: Approximately 90% of the responders have unused expiry medication in their homes, with antibiotics and antipyretics were the most common ones. 87% of respondents checked expiry date of the medication before purchasing. Throwing in the dust bin is the most common (63.8%) disposal practice. 36.2% of the respondents never received any information about proper medication disposal. The main reason for unused medication is expiration of the medication (40.2%) and changing too the r treatment (11.1%) In addition 28.1% responders are unaware about the environmental issues and heal the effects related to improper disposal of medication.

Conclusion: Measures should be taken in order to aware the people about the environmental issues and health effects due to improper disposal of unused/expiry medication. Implementing Medicine take back programmes by pharmacies and hospitals and strict legislation related to Over the Counter medications will be assuring.

FORMULATION AND EVALUATION OF FAST DISSOLVING TABLETS OF CHLORPROMAZINE HYDROCHLORIDE

RAO ARCHANA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

ABSTRACT:

Chlorpromazine HCl is a potent anti-emetic, act by blocking D2 receptors in the Chemoreceptor trigger zone (CTZ), and antagonize apomorphine induced vomiting. In the present study an attempt has been made to prepare fast dissolving tablets of Chlorpromazine HCl in the oral cavity with enhanced dissolution rate. The tablets were prepared with five superdisintegrants eg: Sodium starch glycolate , Crospovidone ,Croscarmellose, L-HPC, Pregelatinised starch , The blend was examined for angle of repose, bulk density, tapped density , compressibility index and hausners ratio. The tablets were evaluated for hardness, friability, disintegration time, dissolution rate,drug content, and were found to be within 1 min. It was concluded that the fast dissolving tablets with proper hardness, rapidly disintegrating with enhanced dissolution can be made using selected superdisintegrants.

A CASE CONTROL STUDY ON FACTORS INFLUENCING SUICIDE ATTEMPTS

SWATHI GADDAMIDI, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Aim: We aim to study psychosocial, socio-demographic and personality related factors associated with suicide attempts.

Methods: From 1st September 2018 to 28th February 2019, we conducted a hospital-based case control study in Department of Psychiatry, Government General Hospital, Guntur, India. One hundred forty-five cases and one hundred forty five age and sex matched controls were selected for study. Eysenck Personality Questionnaire, Modified kuppuswamy scale, Presumptive Stressful Life Event Scale, Suicide Intent Scale were used. Statistical analysis was done using computerized software.

Results: Majority (n=69, 47.58%) of the suicide attempters were between 21-30 years of age. The number of suicide attempters are more in rural areas than in urban areas and it is statistically significant with an Odds Ratio 2.39. The risk of suicide attempts is more in people who are uneducated (OR – 1.51). It was observed that being an alcoholic will increases the risk of suicide attempt (OR1.73). The average of PSLES score of individuals is more in case group (166.8) than control group (111.386). Having a family history of suicide attempts will increase the risk of suicide attempt (OR -2.28).

Conclusion: Residing in rural areas, alcoholism, having no support from family members and having more stress full life events emerged as predominant risk factors for attempting suicide.

SIMULTANEOUS UV SPECTROPHOTOMETRIC METHODS FOR ESTIMATION OF METFORMIN HCL AND GLIMEPIRIDE IN BULK AND TABLET DOSAGE FORM

YELLU SAMARASIMHAREDDY, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Simple, precise, economical, fast and reliable two UV methods have been developed for the simultaneous estimation of Metformin HCl and Glimepiride in bulk and pharmaceutical dosage form. Method A is Absorbance maxima method, which is based on measurement of absorption at maximum wavelength of 236 nm and 228 nm for Metformin HCl and Glimepiride respectively. Method B is area under curve (AUC), in the wavelength range of 217-247 nm for Metformin HCl and 213-239 nm for Glimepiride. Linearity for detector response was observed in the concentration range of 5- 25µg/ml for Metformin HCl and 5-25 µg/ml for Glimepiride. The accuracy of the methods was assessed by recovery studies and was found to be 100.23 % and 99.67 % for Metformin HCl and Glimepiride respectively. The developed method was validated with respect to linearity, accuracy (recovery), precision and specificity. The results were validated statistically as per ICH Q2 R1 guideline and were found to be satisfactory. The proposed methods were successfully applied for the determination of for Metformin HCl and Glimepiride in commercial pharmaceutical dosage form.

SPECTROPHOTOMETRIC METHODS FOR SIMULTANEOUS ESTIMATION OF NIMESULIDE AND DROTAVERINE

MOHAMMAD KHAN, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Three simple spectrophotometric methods have been developed for simultaneous estimation of nimesulide and drotaverine from tablet dosage form. Method-I involves, formation of Q-absorbance equation at 349 nm (isoabsorptive point) and 298.5 nm (max of nimesulide); Method-II simultaneous equation method involves the measurement of absorbances at two wavelengths 298.5 nm (max of nimesulide) and 245 nm (max of drotaverine) in ethanol (95%) and Method-III multicomponent mode of analysis involves the measurement of absorbances at two wavelengths 298.5 nm (max of nimesulide) and 362.5 nm (max of drotaverine); The linearity lies between 5-30 g/ml for both nimesulide and drotaverine for all the three methods. The accuracy and precision of the methods were determined and validated stastically. All the methods showed good reproducibility and recovery with % RSD less than 1. All method were found to be rapid, specific, precise and accurate and can be successfully applied for the routine analysis of nimesulide and drotaverine in bulk and combined dosage form. Key Words: Nimesulide, drotaverine, Q-Absorbance ratio method, Multicomponent mode of analysis, Simultaneous equation method.

PRESCRIBING PATTERN IN GERIATRICS WITH CARDIO VASCULAR DISEASES USING BEERS CRITERIA

BEGUM SABIHA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Aim: Cardiovascular disease (CVD) is a major health problem throughout the world and a common cause of premature morbidity and mortality. CVD is a general category of diseases that affects the heart and the circulatory system. The main aim of the study is to assess the prescribing pattern in geriatrics with cardiovascular diseases using beers criteria.

Study Design: Prospective observational study.

Results and Discussion: Total 132 patients, 12 dropouts due to lack of information. Out of 120 patients 69 Patients are identified as Male Patients and 51 Patients are Female. In 120 sample size Maximum No of Cases were found with Ischemic Heart disease (30.8%) Followed by myocardial infarction (24%) coronary artery disease (20%) congestive heart failure (13.3%) Unstable Angina (11.6%). In 120 Sample Size, Male Patients are Suffering More with Complications Compared to Female Patients.

Conclusion: In this Study with Assessing the Prescribing Pattern in Geriatrics with Cardio Vascular Diseases It was found that major complications seen in Male and Female Patients are Ischemic heart Disease with Left ventricular dysfunction Myocardial Infarction, Coronary Artery Disease, Angina, Congestive Cardiac Failure.

COVID-19 INFECTION:THE PERSPECTIVES ON AGE-DEPENDENT DIFFERENCE IN IMMUNE RESPONSES AND IMMUNOLOGICAL STRATEGIES TO REDUCE VIRAL BURDEN

PITTALA GIRIJA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Covid-19 is caused by the novel strain of Corona virus named as SARS-CoV-2 because of its homology with SARS infection and it is first detailed in Wuhan, China in December 2019. From that point forward, it has spread globally, already contaminating a large number of individuals worldwide and has been proclaimed as a pandemic by the WHO (World Health Organization) on March 2020. SARSCoV-2 causes acute respiratory infection with fluctuating seriousness in various age groups, wherein geriatric patents in general will have serious disease. In children it is moderately spread till-date. A few contrasts in the pathogenesis of Covid-19 among pediatric and geriatric patients have been proposed to clarify these differences. Severe Covid-19 disease is associated with high and persistent viral burdens in the elderly patients. Children have strong innate immune response because of trained immunity (secondary to live-vaccines and frequent viral infections), leading to presumably early control of infection at the site of entry and also the risk factors associated with children were very less as compared to elderly individuals. The expression of primary target receptor for SARS-CoV-2, i.e. angiotensin converting enzyme-2 (ACE-2), decreases with age which has lung defensive effects and the severity of the disease can be explained by the presence of enzyme called Furin. Henceforth, this review will highlight the clinical.

ASSESSMENT OF ADVERSE DRUG REACTIONS AND DRUG-DRUG INTERACTIONS IN POLYPHARMACY AMONG GERIATRICS IN A TERTIARY CARE HOSPITAL

ABDUL MUDASIR MOHAMMED, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

Abstract: Polypharmacy is defined as the use of multiple medications by a single patient which is commonly observed among geriatric patients. The use of multiple medications has been shown to predispose patients to adverse drug reactions, drug-drug interactions and medication non compliance particularly in geriatric population. It is a Prospective Observational Study was conducted in a Tertiary care Hospital for a period of 6 months. The Patients who meet the inclusion criteria are recruited. The demographic details and baseline characteristics like age, gender, Social history, are taken. Data obtained from their case sheets and through direct patient interview. Assessment and evaluation of adverse drug reactions and drug-drug interactions is performed by using WHO causality assessment scale, stockley's drug interactions, Medscape and their frequencies are studied. In Our Study, Out of 287 Patients 72 ADRs and 22 drug interactions were observed. In those mostly Metformin and ceftriaxone causing ADRs in elderly patients .Out of 22 drug interactions the most prescribed Combinations Drugs Glimipride With Ranitidine, and Furosemide with metformin causes Hypoglycemia. In these Mild Drug interactions were 9 Moderate Drug interactions were 5 and Severe Druginteractions were 7. Increasing age and polypharmacy were identified as the predictors of ADRs and Drug-drug interactions. The clinical pharmacist must remain attention in assessing, monitoring and preventing of Adverse Drug Reactions and Drug-drug interactions and making appropriate dosage or therapy adjustments.

COMPARISON OF METFORMIN AND METFORMIN WITH OTHER ORAL HYPOGLYCEMIC AGENTS COMBINATION EFFECTS ON WEIGHT IN TYPE-2 DIABETES MELLITUS PATIENTS

ZAREENA BEGUM, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract:

We assessed the efficacy and safety of oral antidiabetic drugs (OADs) as an add-on treatment in patients with type 2 diabetes uncontrolled on metformin. PubMed, the Cochrane Library, and Embase were searched from inception to October 20, 2017. Pairwise and network meta-analyses were conducted using Stata 14.1 software. Odds ratios (ORs) and weighted mean differences (WMDs) were used to evaluate outcomes. Sixty-eight trials including 36,746 patients were analyzed. No significant differences in the risk of major adverse cardiovascular events (MACEs) and all-cause mortality were observed among any class of OADs when combined with metformin. All classes of OADs as add-ons to metformin improved glucose control, while sodium-glucose co-transporter-2 (SGLT-2) inhibitors showed greater fasting plasma glucose (FPG) reductions {WMD, − 1.49 [95% confidence interval (CI) − 1.69 to − 1.28] mmol/l} and 2 h postprandial glucose (2 h PPG) reductions [WMD, − 3.07 (95% CI − 4.12 to − 2.03) mmol/l]. Thiazolidinediones and sulfonylureas were associated with weight gain [WMD, 2.53 (95% CI 1.95–3.10) kg and 2.00 (95% CI 1.63–2.36) kg, respectively] when added to metformin. Sulfonylureas [WMD, 6.52 (95% CI 4.07–10.45)] were associated with the highest ORs of hypoglycemia. Our results suggest that the seven classes of OADs were not associated with any increased risk of MACEs or all-cause mortality when combined with metformin. Most OADs were associated with similarly large reductions in HbA1c levels when added to metformin, while SGLT-2 inhibitors might be the best option for reducing body weight, FPG, and 2-h PPG.

A NOVEL REVIEW ON NATURAL POLYMERS USED IN FAST DISPERSIBLE TABLETS, DISSOLVING FILM & GELS

ARSHIYA JABEEN, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract :

Any pharmaceutical formulation contains two ingredients one is the active ingredient and other is an excipients. Excipients help in the manufacturing of dosage form and it also improves physicochemical parameters of the dosage form. Polymers play an important role as excipients in any dosage form. They influence drug release and should be compatible, non- toxic, stable, economic etc. They are broadly classified as natural polymers and synthetic polymers. They have wide range of applications so selection of polymer is the main step in designing any dosage form. Nowadays, due to many problems associated with drug release and side effects manufacturers are inclined towards using natural polymers. Natural polymers are basically polysaccharides so they are biocompatible and without any side effects. This review discusses various natural polymers, their advantages over synthetic polymers and role of natural polymers in designing novel drug delivery systems.Natural polymers have more preponderant effects on fast dissolving tablets than synthetic polymers. Natural polymers are preferred over synthetic polymers as they are non-toxic, facilely available at low cost, utilize in low concentration and are naturally extracted to provide nutritional supplements. The natural super disintegrant exhibit faster drug dissolution and increased bioavailability thereby availing patient compliance. Natural polymers incremented the drug release from the tablet and decremented the dissolution and disintegration time, they are utilize as binders, super disintegrant and diluents. Gel system has emerged as one of the best novel drug delivery system, they helps for the sustained and controlled release of drug, improve patient compliance and comforts. There is high scope for research work on gel system in order to provide advanced technique in drug delivery system.

PREPARARTION AND EVALUATION OF HERBAL FACEWASH

MAHESH GAJJELA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract :

It is more acceptable to believe that naturally remedies are safer than synthetic subject's due to fewer side effects. The global market demands are increasing to the fusion of herbs. Current work of herbal facewash is developmental and evaluation of extracts with facial spray contains peel extract of Tulsi (Ocimum sanctum), leaf extract of Aloevera (aloe barbandensis), leaf extract of Rose (rosa centifolia), powder of reetha (sapindus mucorossi). Although there are some specific local herbal formulas available on the market, we purpose to make pure herbal formulations available without using any artificial ingredient. The plants have been reported in the literature with microorganisms, antioxidants, and anti-inflammatory activity. Formulations was prepared and evaluated for various parameters like colour, appearance, consistence, washability and pH. It is very good attempt to establish the herbal face wash contain extract of orange peel, Tulsi, Reetha powder, Aloevera extract, Rose water, Honey,. face wash not only moisturized, they also used as a cleanser. Preferably they used for oily and dry skin physiology. It provides numerous essential nutrients to the required for maintaining the normal skin.from the studies it was concluded that the prepared formulation can be effectively used for facial care.Preparation of extract Leaves of Tulsi and Orange peel were kept in hot air oven for drying purpose at 45°C grinded into small pieces by using grinder. Reetha were crushed to make powder. Desired quantities of herbal drugs were weighed and each herb macerated with Rose water in conical flask and then uniform powder granule size obtained by sieving.

ORALLY DISSOLVING STRIPS

JONGONI SOWJANYA, *Assistant Professor AZAD COLLEGE OF PHARMACY*

Abstract: Recently, fast dissolving films are gaining interest as an alternative of fast dissolving tablets. The films are designed to dissolve upon contact with a wet surface, such as the tongue, within a few seconds, meaning the consumer can take the product without need for additional liquid. This convenience provides both a marketing advantage and increased patient compliance. As the drug is directly absorbed into systemic circulation, degradation in gastrointestinal tract and first pass effect can be avoided. These points make this formulation most popular and acceptable among pediatric and geriatric patients and patients with fear of choking. Over-the-counter films for pain management and motion sickness are commercialized in the US markets. Many companies are utilizing transdermal drug delivery technology to develop thin film formats. In the present review, recent advancements regarding fast dissolving buccal film formulation and their evaluation parameters are compiled. Fast dissolving films are the novel approach in oral drug delivery systems. It promises patient compliance especially in case of pediatrics and geriatrics patients. They can also be used when quick action is required. They possess many advantages over conventional dosage form and can also be used in cases of dysphagia, Parkinson's disease, mucositis, or vomiting.Fast dissolving delivery system should have the following properties: High stability, transportability, ease of handling and administration, no special packaging material or processing requirements, no water necessary for application, and a pleasant taste.

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